What is claimed is:

1. A method for detecting a position of a mobile robot comprising:

calculating time taken for each ultrasonic signal generated by ultrasonic signal generated means of a charging station to reach the mobile robot on the basis of a point of time at which a radio frequency(RF) emitted from the mobile robot is emitted, and calculating a distance between the charging station and the mobile robot based on the calculated reaching time; and

calculating an angle between the charging station and the mobile robot based on the calculated distance value and a preset distance value between the ultrasonic signal oscillating means.

2. The method of claim 1, wherein the angle between the charging station and the mobile robot is calculated through triangulation based on the calculated distance value and the preset distance value between the ultrasonic signal oscillating means.

3. The method of claim 1, wherein the RF signal is emitted at preset time intervals.

4. The method of claim 1, further comprising prestoring a position number for discriminating a position of at least one ultrasonic means for receiving the ultrasonic signals, in order to detect a direction that the mobile robot proceeds.

5. The method of claim 1, further comprising adding a semidiameter of the mobile robot to the distance value between the charging station and the mobile robot.

6. The method of claim 1, wherein the distance value between the charging station and the mobile robot is detected through expression S=340[m/sec] x (T1-T2), wherein 340[m/sec] is sound velocity, T1 is time taken to receive an ultrasonic signal, and T2 is time taken to oscillate an ultrasonic signal after receiving an RF signal.

7. An apparatus for detecting a position of a mobile robot generates an RF (Radio Frequency) signal and ultrasonic signals, calculates reaching time taken for each ultrasonic signal to reach the mobile robot on the basis of a point of time at which the RF signal is generated and detects a position of the mobile robot based on the reaching time and a preset distance value between the ultrasonic signal oscillating means for oscillating the ultrasonic signals.

8. An apparatus for detecting a position of a mobile robot comprising:

an RF generating means installed at a mobile robot and for emitting an RF(Radio Frequency) signal;

an RF reception means installed at a charging station and for receiving the RF signal emitted by the RF generating means;

ultrasonic signal oscillating means each installed at the charging station and for oscillating ultrasonic signals;

a control means for controlling the ultrasonic signal oscillating means so

that the ultrasonic signals are oscillated whenever the RF signal is received by the RF reception means;

ultrasonic signal reception means installed on an outer circumferential surface of the mobile robot and for receiving the ultrasonic signals oscillated by the ultrasonic signal oscillating means; and

a microcomputer installed in the mobile robot and for calculating a distance and an angle between the mobile robot and the charging station based on reaching time taken for each ultrasonic signals to reach the mobile robot and a preset distance value between the ultrasonic signals oscillating means.

9. The apparatus of claim 8, wherein the microcomputer compensates a position error of the mobile robot by checking the position of the mobile robot based on the calculated distance value and angle value.

10. The apparatus of claim 8, wherein the ultrasonic signal oscillating means are installed to be symmetric to each other in a horizontal direction of the charging station.

11. The apparatus of claim 8, wherein the ultrasonic signal oscillating means are installed to be symmetric to each other in vertical and horizontal directions at the charging station.

12. The apparatus of claim 8, wherein the microcomputer detects reaching time taken for each ultrasonic signal to be received by one or more ultrasonic signal reception means after being oscillated by the ultrasonic signal

oscillating means on the basis of a point of time at which an RF signal, which is generated at preset time intervals, is generated; calculates a distance between the mobile robot and the charging station based on the detected reaching time; and calculates an angle between the mobile robot and the charging station through triangulation based on the detected reaching time and the preset distance value between the ultrasonic signal oscillating means.

13. The apparatus of claim 8, wherein the microcomputer further comprises a storing means for storing position numbers for discriminating positions of the ultrasonic signal reception means, and detects a direction that the mobile robot proceeds through the position number of the ultrasonic signal reception means which has received the ultrasonic signal.

14. The apparatus of claim 8, wherein when the ultrasonic signals are received by two or more ultrasonic reception means, the microcomputer calculates reaching time taken for each ultrasonic signal to be received by the two or more ultrasonic signal reception means; selects two ultrasonic signal reception means which have received ultrasonic signals whose reaching time is the fastest, among the calculated reaching time values; and calculates a distance between the mobile robot and the charging station based on the reaching time of the ultrasonic signals which have been received by the two selected ultrasonic signal reception means.

15. The apparatus of claim 8, wherein the microcomputer detects the distance between the charging station and the mobile robot through expression S=340[m/sec] x (T1-T2), wherein 340[m/sec] is sound velocity, T1 is time taken to

receive an ultrasonic signal, and T2 is time taken to oscillate an ultrasonic signal after receiving an RF signal.